

RUTGERS COOPERATIVE EXTENSION

NEW JERSEY AGRICULTURAL EXPERIMENT STATION

Prevent Tick Bites: Prevent Lyme Disease

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Lyme disease is spread by the tiny deer tick. Ticks feed on blood, and *infected* ticks transmit the disease as they feed. Although the deer tick prefers to feed on wild animals, especially mice, birds, opossum, raccoon, and deer, they will also feed on dogs, cats, livestock, and humans. When people visit or live near deer tick habitats, they run a high risk of contracting Lyme disease. For your own safety, you should become familiar with tick habits and habitats, and you should learn how to prevent tick bites.

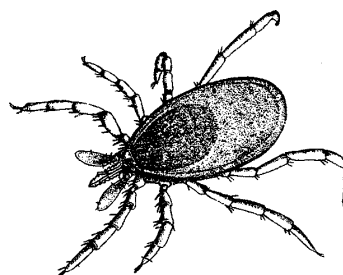
Favorite Tick Habitats

Deer ticks prefer to live in the woods. Dense, mature woods with a thick undergrowth of shrubs and small trees are their favorite habitat (85%). They also are found, to a lesser degree, along the edge of the woods, where the woods meet lawns or fields. Very few (4–8%) are found in lawns, because properly mowed lawns are too hot and dry to sustain the tiny deer tick. Ticks prefer the cool, moist woodlands where they have a better chance of finding an animal host.

Where you live, your hobbies, and your habits may influence your risk of a tick bite. Notice in particular these high-risk factors:

- yards surrounded by dense woods
- birdbaths, birdfeeders
- outdoor pets that come indoors
- woodpiles, brushpiles, stone or rock walls
- swingsets, treehouses in the woods
- outdoor occupations: landscapers, utility line workers, farmers, etc.
- outdoor recreation: freshwater fishing, camping, hiking, hunting, etc.

Many of these factors encourage wildlife near the home, and these animals may carry ticks. Mice in particular are known hosts of immature deer ticks and carriers of Lyme disease. Reduce, remove, or avoid these risk factors as much as possible.



Deer Tick
(enlarged to
show detail)

Personal Protection

Outdoor pursuits need not be discontinued as long as precautions are taken to prevent a tick bite:

- Wear light-colored clothing (ticks are easier to see).
- Wear long pants *tucked into socks*.
- Avoid tall grass and shrubby areas.
- Widen trails through woods (to 6 feet).
- Remove brushpiles.
- Keep turfgrass mowed.
- Thin out low shrub vegetation in woods.
- Wear a tick repellent.

Repellents contain the active ingredient *permethrin* (Duranon, Permethrin Tick Repellent, Permanone), or N,N-diethyl-meta-tolamide, usually called **DEET** (Off, Cutters, Muskol, etc.)* *Follow label directions*; apply until clothing is damp and allow to dry. These products repel 82–100% of ticks.

* Mention or display of a trademark, proprietary product, or firm in text or figures does not constitute endorsement by Rutgers Cooperative Extension and does not imply approval to the exclusion of other suitable products or firms.

Tick Identification

Seventy percent of all Lyme disease cases occur from the bite of the immature (nymph) deer tick. Before feeding, nymphs are the size of a poppy seed with a dark head and translucent body. After feeding, they swell and appear dark gray and round, about the size of a mustard seed.

Adult deer ticks are the size of a sesame seed before feeding; females have a black head and brick red abdomen. After feeding, they turn gray and swell to the size of a sunflower seed kernel.

Deer ticks are active all year round, as long as the temperature is over 35°F. **Peak activity months are May-June (nymphs), and October-November (adults).**

Ask your county extension agent for a free copy of the bulletin "Protect Yourself from Ticks and Lyme Disease" for specific ways to identify different ticks. The Lone Star tick may have a slight involvement in Lyme disease transmission; the American dog tick is not known to be involved in Lyme disease transmission in New Jersey.

Larva Nymph Adult



(all shown actual size)

Finding and Removing Ticks

Ticks don't fly, jump, or drop from trees. They inhabit shrubby vegetation (nymphs: four- to six-inch vegetation; adults: waist-high vegetation) and wait for an animal to brush by. They then grasp the animal's fur or skin, and crawl up the body. Ticks will wander on the body for 30–60 minutes before they insert their mouthparts and begin to feed.

INFECTED DEER TICKS MUST FEED FOR AT LEAST 12 TO 24 HOURS before they can begin to transmit the Lyme disease bacterium. Therefore you should **remove ticks as soon as possible**. Take a shower after outdoor activity and check your body thoroughly, paying close attention to the armpits, the groin, and neck. Use the buddy system! Look for ticks nightly, especially if you have young children.

In New Jersey, approximately 20 to 40 percent of deer ticks are infected and able to transmit Lyme disease. The infection rate is linked with native white-footed mouse populations.

Remove ticks with tweezers only (bent, "needle-nose" tweezers are best). Do not use alcohol, nail polish, hot matches, petroleum jelly, or other methods to remove ticks. These methods may actually traumatize ticks, causing them to regurgitate gut contents, which may include the Lyme disease bacterium.

Tick Control

If avoiding tick-infested areas is not possible, pesticide use may be justified. Research has shown that *granular* insecticides may provide longer lasting controls than liquid sprays. **READ AND FOLLOW ALL DIRECTIONS ON THE LABEL.** Some insecticides authorized for tick control include:

SEVIN (carbaryl)
PERMETHRIN (a pyrethroid)
DURSBAN (chlorpyrifos)
DIAZINON (spectrum)

Granular insecticides should be applied once a year in low-risk areas (late May) and twice in high-risk sites (late May and late June). An early October adult treatment is optional. Focus treatment along the edge of the woods and 15 feet into the woods. These treatments have resulted in more than 90 percent control in research trials.

Liquid insecticides should be thoroughly sprayed on vegetation until they run off. Apply in mid-May, early June, and (optional) late June. Sprays targeting adult deer ticks may be applied after leaves have dropped from the trees, from November to April.

DAMMINIX is a product that provides insecticide-laced nesting material to mice. It kills immature ticks feeding on mice in their burrows. Place it only in areas where mice frequent. Damminix may also be used in combination with the above insecticides.

For more information on Lyme disease, see your health care provider.